IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No.	:	10/527,618	Confirmation No. Unknown
Applicant	:	Jackie Au-Yeung, et al	
Title	:	Apparatus and Method for Preparative Scale Purification of Nucleic Acids	
Filed	:	March 10, 2005	
TC/AU	:	Unknown	
Examiner	:	Unknown	
Docket No.	:	213-0084US	
Customer No.	:	25746	

Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Dear Sirs and Mesdames:

Applicant desires to bring to the attention of the Examiner the following information as well as the references listed on the attached Information Disclosure Statement, Form PTO 1449. It is respectfully requested that the disclosed material be considered, made of record and appear on the listing of references cited on any patent from this application. A copy of each of the foreign patent and non-patent references is enclosed in compliance with 37 CFR § 1.97 and 1.98. In accordance with USPTO waiver of the provision of 37 CFR 1.98 (a)(2)(i) for submitting copies of U.S. patents for patent applications filed after June 30, 2003 (see 1276 O.G. 55), no copies of these references are included. Copies will however be submitted upon request.

The present invention is directed to methods and apparatus for pharmaceutical scale manufacture of plasmid DNA. Certain aspects of the claimed process were transferred under written confidentially agreement to a foreign corporation that was a corporate partner of Valentis, the assignee of the present invention. The corporate partner, DSM Biologics in Groningen, The Netherlands, was functioning as a contract biologics manufacturer. In accordance with the confidentiality requirements of contract manufacturers, no information identifying clients, manufacturing specifics, status or scheduling was made available to Valentis. Although Valentis believed that the process was still in development stage, it was found that DSM Biologics performed two "runs" for third parties in the Netherlands in accordance with an embodiment disclosed in the instant application, without authorization or notification to Valentis, prior to the priority date for this application. The first run was apparently a pilot run on April 9, 2001. The second run on July 17, 2001 was intended as apparently intended to be a qualified GMP (Good Manufacturing Practices) run but was apparently rejected by DSM's QA as non-GMP. Material generated in at least one of the runs

was provided to the third party and some compensation was received for the material. To the best of the information and belief of Valentis, the process was conducted entirely in the Netherlands. To the best of the information and belief of Valentis, no details of the manufacturing process are available to third parties who contracted for manufacturing.

In accordance with 37 C.F.R §§1.97(g),(h), submission of this Information Disclosure Statement should not be construed as a representation that a search has been made or that no other material information as defined in 37 C.F.R. 1.56(a) exists. This submission is not intended to constitute an admission that any patent, publication or other information referred to herein is "prior art" to the invention disclosed unless specifically so designated. The right is reserved to antedate any item under 37 C.F.R. 1.131.

The present Information Disclosure Statement submitted under 37 CFR §1.97(b) is being filed within three months of the filing of a national application or before any known mailing date of a first Office Action on the merits, whichever event occurs last, and consequently, no fees are believed to be due in connection with this submission. However, should the situation warrant please consider this a request for consideration under the appropriate rule and an authorization for Commissioner to charge and/or credit Deposit Account No. **50-1922** should any additional fees be required or overpayment made.

Respectfully submitted,

Marilyn M. Huston, Reg. No. 37,851 — Date 4.1.05

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CERTIFICATE OF MAILING 37 § C.F.R. 1.8

I hereby certify that this correspondence is being deposited with the U.S. Postal Service with sufficient postage as First Class Mail in an envelope addressed to Commissioner for Patents, P.O. Box 1450, Alexandria VA, 22313-1450, on the date below.

April 1, 2005
Date — Rebecca R. Ginn

Form PTO-1449 (modified)

List of Patents and Publications for Applicant's

INFORMATION DISCLOSURE STATEMENT

(Use several sheets if necessary)

Atty. Docket No.	Serial No.
213-0084US	10/527,618

Inventor/Applicant: **Kwok-Leung (Jackie) Au-Yeung, et al.**

Title: **Apparatus and Method for Preparative Scale Purification of Nucleic Acids**

Filing Date:	Group:
March 10, 2005	unknown

U.S. Patent Documents	Foreign Patent Documents	Other Art
See Pages 1 – 3	*See Page 3*	*See Page 3 – 5*

U.S. Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Name	Class	Sub Class	Filing Date of App.
	A1	3,286,992	11/22/1966	Armeniades, et al.			11/29/1965
	A2	3,928,642	12/23/1975	Hubert, et al.	426	521	01/22/1975
	A3	4,450,103	05/22/1984	Konrad, et al.	260	112	03/01/1982
	A4	4,462,940	07/31/1984	Hanisch, et al.	260	112	05/18/1983
	A5	4,621,061	11/04/1986	Pühler, et al.	435	320	12/13/1983
	A6	4,623,723	11/18/1986	Keller, et al.	536	27	03/09/1984
	A7	4,780,210	10/25/1988	Hsia	210	638	01/07/1987
	A8	4,830,969	05/16/1989	Holmes	435	259	08/31/1981
	A9	4,900,677	02/13/1990	Hewitt	435	259	09/26/1986
	A10	4,997,932	03/05/1991	Reardon, et al.	536	27	11/13/1989
	A11	4,985,552	01/15/1991	Fedeli, et al.	536	27	07/05/1989
	A12	5,008,189	04/16/1991	Oroskar, et al.	435	105	06/20/1989
	A13	5,034,314	07/23/1991	Geiger, et al.	435	6	12/22/1986
	A14	5,057,426	10/15/1991	Henco, et al.	435	270	11/23/1987
	A15	5,096,818	03/17/1992	DeBonnville	435	91	06/04/1990
	A16	5,208,160	05/04/1993	Kikyotani, et al.	435	270	04/22/1988
	A17	5,256,294	10/26/1993	Van Reis	210	637	09/17/1990
	A18	5,300,433	04/05/1994	Hrinda, et al.	435	238	09/25/1991
	A19	5,561,064	10/01/1996	Marquet, et al.	435	320.1	02/01/1994
	A20	5,576,196	11/19/1996	Horn, et al.	435	91.1	01/13/1995
	A21	5,707,812	01/13/1998	Horn	435	6	08/06/1996

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Form PTO-1449 (modified)

List of Patents and Publications for Applicant's

INFORMATION DISCLOSURE STATEMENT

(Use several sheets if necessary)

Atty. Docket No.	Serial No.
213-0084US	10/527,618

Inventor/Applicant: **Kwok-Leung (Jackie) Au-Yeung, et al.**

Title: **Apparatus and Method for Preparative Scale Purification of Nucleic Acids**

Filing Date:	Group:
March 10, 2005	unknown

U.S. Patent Documents	Foreign Patent Documents	Other Art
See Pages 1 – 3	*See Page 3*	*See Page 3 – 5*

U.S. Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Name	Class	Sub Class	Filing Date of App.
	A22	5,792,651	08/11/1998	Colpan, et al.	435	270	10/11/1996
	A23	5,837,529	11/17/1998	Wan, et al.	435	259	04/15/1996
	A24	5,916,775	06/29/1999	Hayashizaki	435	91.1	06/18/1997
	A25	5,981,735	11/09/1999	Thatcher, et al.	536	25.4	02/12/1997
	A26	5,990,301	11/23/1999	Colpan, et al.	536	25.4	10/18/1996
	A27	6,011,148	01/04/2000	Bussey, et al.	536	25.4	08/01/1996
	A28	6,036,940	03/14/2000	Ju, et al.	424	9.52	11/12/1997
	A29	6,197,553	03/06/2001	Lee, et al.	435	91.1	11/07/1997
	A30	6,214,586	04/10/2001	McNeilly	435	91.1	12/08/1997
	A31	6,268,492	07/31/2001	Mittlestaedt, et al.	536	25.4	07/29/1999
	A32	6,277,648	08/21/2001	Colpan	436	177	06/02/1994
	A33	6,297,371	10/02/2001	Colpan, et al.	536	25.3	02/22/1999
	A34	6,313,285	11/06/2001	Butler, et al.	536	25.4	07/21/2000
	A35	6,492,164	12/10/2002	Crouzet, et al.	435	320.1	09/05/2000
	A36	6,503,738	01/07/2003	Thatcher, et al.	435	91.1	01/07/2003
	A37	6,617,443	09/09/2003	Hendriks, et al.	536	25.41	09/05/2002
	A38	6,730,781	05/04/2004	Wils, et al.	536	25.4	09/15/1998
	A39	6,750,333	06/15/2004	Kuhne	536	23.1	08/04/1998
	A40	6,825,012	11/30/012	Blanche, et al.	435	91.42	10/19/2001
	A41	2001/0034435	10/25/2001	Nochumson, et al.	536	23.1	01/29/2001
	A42	2001/0045359	11/29/2001	Cheng, et al.	204	547	07/13/2001

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Form PTO-1449 (modified)	Atty. Docket No. 213-0084US	Serial No. 10/527,618
List of Patents and Publications for Applicant's INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)	Inventor/Applicant: Kwok-Leung (Jackie) Au-Yeung, et al.	
	Title: Apparatus and Method for Preparative Scale Purification of Nucleic Acids	
	Filing Date: March 10, 2005	Group: unknown

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Exam. Init.	Ref. Des.	Document Number	Date	Name	Class	Sub Class	Filing Date of App.
	A43	2002/0198372	12/26/2002	Bridenbaugh, et al	536	25.4	07/23/1998

Foreign Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Country	Class	Sub Class	Translation Yes/No
	B1	WO 98/11208	03/19/1998	WIPO	C12N	15/10	Yes
	B2	WO 98/30685	07/16/1998	WIPO	C12N	15/10	Yes
	B3	WO 99/63076	12/09/1999	WIPO	C12N	15/10	Yes
	B4	CA 2,474,436 (WO 03/070942)	08/28/2003	Canada	C12N	15/10	Yes
	B5	EP 0 240 191	10/07/1987	EPO	C12N	15/00	Yes
	B6	EP 0 376 080	07/04/1990	EPO	C12N	15/10	Yes
	B7	EP 0 431 905	06/12/1991	EPO	C12N	15/10	Yes
	B8	EP 0 517 515	12/09/1992	EPO	C12N	15/10	Yes

Other Art (Including Author, Title, Date Pertinent Pages, Etc.)

Exam. Init.	Ref. Des.	Citation
	C1	Bioscience Contract Production Corp Flyer, "Plasmid DNA Production," (June 1999)
	C2	Birnboim, et al., "A Rapid Alkaline Extraction Procedure for Screening Recominant Plasmid DNA," Nucleic Acids Res. 7, 1513-1523 (1979)
	C3	Carlson, et al., "Mechanical Description of Escherichia Coli For Plasmid Recovery," Biotechnology and Bioengineering 48, pp 303-315 (1995)

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Exam. Init.	Ref. Des.	Citation
	C4	Chandra, et al., "Large-Scale Purification of Plasmid DNA by Fast Protein Liquid Chromatography Using a Hi-Load Q Sepharose Column," Analytical Biochemistry, 203: 169-172 (1992)
	C5	Coppella, et al., "Isolation of High-Molecular-Weight Nucleic Acids for copy Number Analysis Using High-Performance Liquid Chromatography," Journal of Chromatography, 402: 189-199 (1987)
	C6	Data Sheet TMAE (M), "Properties of the Tentacle Ion-Exchange Sorbents," http://www.chromatography.co.uk.products/bio/ds01.htm 08/26/2003
	C7	Davis, et al., Short Technical Reports, "Comparison of Plasmid DNA Preparation Methods for Direct Gene Transfer and Genetic Immunization," Biotechniques, 21:93-99 (July 1996)
	C8	Durland, et al., "Manufacturing and Quality Control of Plasmid-Based Expression Systems," Advance Drug Delivery Reviews 30: 33-48 (1998) Elsevier
	C9	Ferreira, et al., "Downstream Processing of Plasmid DNA for Gene Therapy and DNA Vaccine Appplications," Trends in Biotechnology 18, pp 380-388 (September 2000)
	C10	Fractogel EMD Process Media Merck KGaA 8 pages
	C11	"Guide to Tentacle-Biochromatography Products," http://www.chromatography.co.uk/products/bio/summary.htm 08/26/2003
	C12	Horn, et al. "Cancer Gene Therapy Using Plasmid DNA: Purification of DNA for Human Clinical Trials," Human Gene Therapy, 6: 565-573 (May 1995)
	C13	Kahn, et al., "Purification of Plasmid DNA by Tangential Flow Filtration," Biotechnology and Bioengineering 69(1) 101-106 (2000)
	C14	Kenics, "Kenics Static Mixer Systems," 4 pages 03/01/1995
	C15	Lengsfeld, et al., "Shear-Induced Degradation of Plasmid DNA," J Pharmaceutical Sciences 91, 1581-1589 (July 2002)
	C16	Lesney, "It's Not Being Green?" Today's Chemist at Work, pp 33-34 (July 2002)

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	C17	Maniatis, et al., "Large-Scale Isolation of Plasmid DNA, Molecular Cloning: A Laboratory Manual, pp 85, 87, 90 and 91 (1982)
	C18	Marquet, et al., "Process Development for the Manufacture of Plasmid DNA Vectors for Use in Gene Therapy," BioPharm, 8(7) 26-37 (1995)
	C19	Marquet, et al., "Characterization of Plasmid DNA Vectors for use in Human Gene Theraphy, Part 1," BioPharm, 42-50 (May 1997)
	C20	Merion, et al., "Purification of Supercoiled Plasmids from Crude Cell Lysates Using High Performance Anion Exchange Chromatography," BioTechniques 7(1) (1989) 60-67
	C21	Montbriand, et al., "Improved Method for the Removal of Endotoxin From DNA," Journal of Biotechnology 44: 43-46, (1996)
	C22	pAlliance Brochure – QIAGENews, "Contract Plasmid DNA Manufacturing Services for Clinical and Commercial Applications," Issue No. 2 (2000)
	C23	Prazeres, et al., "Large-Scale Production of Pharmaceutical-Grade Plasmid DNA for Gene Therapy: Problems and bottlenecks," Trends Biotechnol., 17, pp. 169-174 (1999)
	C24	Theodassiau, et al. "The Processing of a Plasmid-Based Gene from *E. Coli.* Primary Recovery by Filtration," Bioprocess Engineering, Vol. 16, (1997) 175-185.
	C25	Varley, et al., "Production of Plasmid DNA For Human Gene Therapy Using Modified Alkaline Cell Lysis and Expanded Bed Anion Exchange Chromatography" Bioseparation 8: 209-217 (1999)
	C26	"Clearance of Endotoxin From Solution by Absorptive filtration with Wartobind™ Membrane Asorbers," Sartorius Corporation, Developing Methods #7
	C27	Zasloff, et al., "a New Method for the Purification and Idetification of Covalently closed circular DNA Molecules," Nucleic Acids Research, 5: 1139-1153 (1978)

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